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ABSTRACT

This report presents results of the 1991 Wyoming Youth Risk Behavior Survey (YRBS) and the 1991 Wyoming School Health Education Survey (SHES). Thirty-five schools participated in the YRBS, with 3,513 students in grades 9-12; 92 public schools with students in grades 7-12 participated in the SHES. Statistical data from the YRBS are provided in the following areas: (1) intentional and unintentional injuries (seat belt use, motorcycle and bicycle safety, motor vehicle safety, carrying of weapons, physical fighting, and suicide); (2) tobacco, alcohol, and other drug use; (3) sexual behaviors that result in human Immunodeficiency Virus (HIV) infection, other sexually transmitted diseases, and unintended pregnancy; (4) dietary excesses and imbalances; and (5) physical inactivity. SHES data are provided on the topics of provision of HIV prevention education, training received by staff members that provide HIV prevention education, percentage of schools teaching HIV functional knowledge topics and skills by specific grade level, and barriers to implementing effective comprehensive health education and HIV prevention. The report concludes that Wyoming youth engage in behaviors that put them at risk for significant mortality, morbidity, disability, and social problems extending from youth to adulthood, and that effective school-based health education programs are needed to replace these behaviors with healthy behaviors. (Contains 43 references.) (JDD)

A Healthy Wyoming: Start with Youth Today

Results of the 1991 Wyoming Youth Risk Behavior and School Health Education Surveys

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RESULTS OF THE 1991 WYOMING YOUTH RISK BEHAVIOR AND SCHOOL HEALTH EDUCATION SURVEY

Prepared for the Wyoming HIV/AIDS Education School Health Project
And
Wyoming Department of Education,
Diana J. Ohman, Superintendent

by

Research and Evaluation Program
Health Behavior Laboratory
University of Utah

September, 1991

Society and education have a long history of waiting for a crisis before reacting. As we learned of the overweight youth in our schools, we developed nutrition programs. When we learned of our youth's problems with drugs and alcohol, we instituted drug and alcohol resistance programs. Now we are faced with the problem of HIV/AIDS infection among all segments of the population, including adolescents, so we add another new program. These segmented programs are well meaning and to some degree effective; however, they are adding increased stress to an already overloaded curriculum in schools today.

The Wyoming education system has long recognized the connection between health and learning and endorses the approach that addresses the whole child. The needs of a whole child include the physical, mental, emotional and social aspects of his/her world. All of these aspects must be considered if communities are to ensure learning and achievement in school and the development of responsible adults.

I hope this report will provide a focal point for districts to develop the community support needed to address these problems facing Wyoming's youth.

Diana J. Ohman

Diana J. Ohman
State Superintendent of Public Instruction

ACKNOWLEDGEMENTS

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INTRODUCTION

INTRODUCTION

This report describes the results of two surveys conducted during the Spring, 1991: the 1991 Wyoming Youth Risk Behavior Survey (YRBS) and the 1991 Wyoming School Health Education Survey (SHES). The surveys were conducted and this report was prepared for the Wyoming HIV/AIDS Education School Health Project and the Wyoming Department of Education as part of activities completed under a competitive contract awarded to health education researchers at the University of Utah. Fifty schools were randomly selected to participate in the state-level YRBS and all 156 public schools with students in grades 7 through 12 were selected to participate in the SHES.

This report is intended for use by educators across Wyoming to help focus the development of effective school-based comprehensive health education programs. Permission is granted to quote or reproduce with credit to the Wyoming HIV/AIDS Education School Health Project, the Wyoming Department of Education, and the University of Utah. This report can also be shared with parents and other interested parties to inform decision makers about the need for effective school health education programs in Wyoming. Similar reports were prepared for state-level health education programs in Idaho, Montana, and Utah.

The health problems experienced by youth are caused by a few preventable behaviors, such as drinking and driving and unprotected sexual intercourse. Tobacco use, excessive consumption of fats, and insufficient physical activity, habits formed during adolescence, are known to lead to diseases which are not manifest until adulthood. Effective educational programs are needed to reduce the extent to which adolescents engage in these priority health risk behaviors.

To reduce overall student risk, a health education program should be as comprehensive as possible and incorporate a coordinated, collaborative effort among schools, parents, and the community. Because school is "central to the development of adolescent socialization...[schools are] the place where daily reinforcement for behavior change must occur" (Eggert, Seyl, and Nicholas, 1990).

It is important that schools provide accurate information and repeated opportunities for students to develop skills that will enable them to reduce:

- Behaviors that result in intentional and unintentional injuries
- Tobacco use
- Alcohol and other drug use
- Sexual behaviors that result in HIV infection, other sexually transmitted diseases, and unintended pregnancies
- Dietary excesses and imbalances
- Physical inactivity

The results presented in this report can be used to identify adolescent needs, develop educational programs to meet those needs, and design teacher training based on effective curricula. This report should be shared among school administrators, teachers, and parents within each community to gain informed support for school-based programs that incorporate the principles and components of effective comprehensive health education programs.

SURVEY METHODS

SURVEY METHODS

The Youth Risk Behavior Survey (YRBS) was designed by experts nationwide through the Centers for Disease Control to measure the extent to which adolescents engage in health risk behaviors including behaviors that result in intentional and unintentional injuries; tobacco, alcohol, and other drug use; sexual behaviors; dietary indiscretions; and physical inactivity.

The 1991 Wyoming YRBS was identical to the National YRBS and was approved for use in Wyoming schools by Diana J. Ohman, Superintendent of Public Instruction, and the Wyoming HIV/AIDS Advisory Committee. Randomly selected school districts each made the decision to participate in the survey and decided whether and how parental consent would be sought. Of the 50 randomly selected schools, 35 agreed to participate in the survey on which this report is based. A total of 3,513 students completed the survey in 243 classrooms across the state.

Among the 35 participating schools, both large and small schools were spread geographically throughout the state, and were represented in the same ratio that resulted among the 50 schools selected to participate through a stratified (by size) random sampling procedure. The fifteen schools not participating in the survey were of various sizes and were evenly spread across the state. No particular geographical or school size bias was noted among participating or non-participating schools.

The two reasons most often cited for not participating were: 1) Other surveys or educational activities had taken precedence and there was not time available for the YRBS, and 2) Some questions about adolescent sexual behaviors were deemed locally to be inappropriate. Because too few of the randomly selected schools participated in the survey, results that were intended to represent students in grades 9 through 12 statewide can reasonably be attributed only to those students who completed the survey.

Superintendents of school districts were contacted during November, 1990 to obtain approval to approach principals of randomly selected schools about the survey. Sufficient time was allowed to gain school board and/or parent approval, and to answer any questions about the survey.

During the Spring, 1991, students in randomly selected second-period classes were asked to complete the 75-item, multiple choice Wyoming YRBS questionnaire. Locally identified contact persons were provided, at no cost, with all information and materials necessary to administer the survey and return the completed data sheets for processing.

Teachers administering the survey to students were provided with detailed written instructions to ensure uniform survey administration across sites. To encourage accurate responses to sensitive questions, a strict protocol was implemented to protect the privacy and confidentiality of all participating students. Participation in the survey was voluntary. Students could decline to participate, turn in blank or incomplete survey forms, or stop completing the survey at any time.

A separate survey, the 1991 Wyoming School Health Education Survey (SHES) was delivered by mail to 156 public schools during Spring, 1991. A contact person designated by each school's principal was asked to complete the survey. Ninety-two (59.0%) completed surveys were returned in prepaid envelopes for computer file coding and data analysis. The characteristics of health education programs in schools not responding to the survey could not be ascertained by any cost-efficient means.

YOUTH RISK BEHAVIOR SURVEY RESULTS

YOUTH RISK BEHAVIOR SURVEY RESULTS

Of the 3,513 students participating in the 1991 Wyoming YRBS, 47.3% (1,662) of the respondents were female and 52.7% (1,851) were male. By grade, 27.7% were enrolled in the 9th grade, 26.3% in the 10th grade, 25.4% in the 11th grade, and 20.1% in the 12th grade (0.5% were ungraded or in other grades). Of the students responding to the survey, 86.0% described themselves as white, 1.5% as black, 6.5% as Hispanic, 1.3% as Asian or Pacific Islander, 2.0% as Native American or Alaskan Native, and 2.6% described themselves as other.

To facilitate an understanding of the need for effective school-based health education programs in Wyoming, this section includes for each priority health risk behavior:

- Summary statements from the U.S. Centers for Disease Control (CDC) about the consequences of engaging in various health risk behaviors
- Statistics from other sources regarding risk behaviors specific to Wyoming
- Adolescent Health Objectives for the Year 2000 from the U.S. Department of Health and Human Services, Public Health Service (PHS)
- 1991 Wyoming YRBS results depicted in graph- and bullet-statement-form.

This presentation format will allow the reader to draw conclusions about the importance of the priority health risk behaviors and the extent to which Wyoming students who completed the survey engage in these behaviors. Although some readers might prefer to compare Wyoming results to statistics derived from other surveys, such comparisons may lead to erroneous conclusions. It is not whether youth in Wyoming engage in health risk behaviors less frequently than other youth, but the degree to which they engage in such behaviors and whether this puts them at risk for health problems that is important. Results from the National YRBS conducted by the CDC and utilizing the same questionnaire will be available in the near future and will provide the data needed to make more appropriate comparisons.

INTENTIONAL AND UNINTENTIONAL INJURIES

Accidents are the fourth leading cause of death for all ages in Wyoming and the number one cause of death for those age 1-35 (Wyoming Department of Health, 1991a).

Intentional and Unintentional Injuries

Wyoming's accidental death rate is 13% higher than the national rate. Because injuries claim so many lives of children and adolescents, they are accountable for more potential years of life lost than the three leading causes of death in Wyoming combined. Homicides, suicides, and automobile accidents accounted for 76.1% of all fatalities for 15-24 year olds during 1989 in Wyoming (Wyoming Department of Health, 1991a).

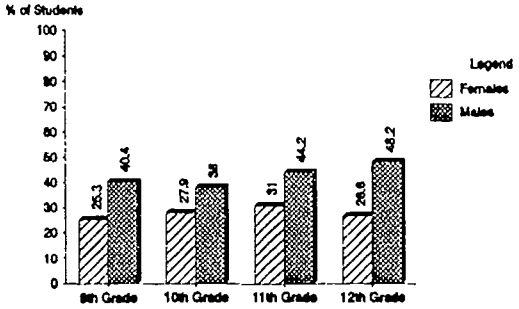
Seat Belt Use

Seat belt use is estimated to reduce car accident fatalities by 40% to 50% and serious injuries by 45% to 55% (National Committee for Injury Prevention and Control, 1989). Increasing use of automobile safety restraint systems to 85% could save an estimated 10,000 American lives yearly (U.S. Department of Health and Human Services, 1990a).

Year 2000 Objectives:

Increase use of occupant protection systems, such as safety belts, inflatable safety restraints, and child safety seats, to at least 85% of automobile occupants.

Wyoming YRBS Results:



Percentage of All Students Who Reported Never or Rarely Wearing Seatbelts When Riding in a Car Driven By Someone Else

- 15.4% of all students reported "Always" wearing a seatbelt, and 24.6% reported wearing a seatbelt "Most of the Time."

Motorcycle and Bicycle Safety

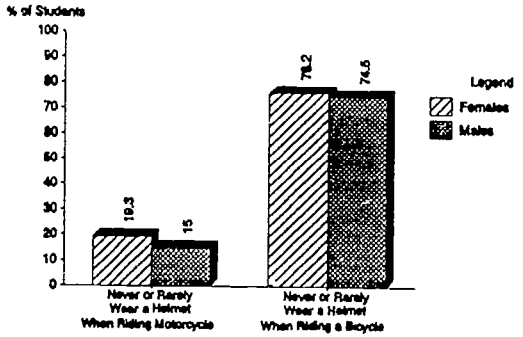
Head injury is the leading cause of death in motorcycle and bicycle crashes (National Committee for Injury Prevention and Control, 1989). Unhelmeted motorcyclists are two times more likely to incur a fatal head injury and three times more likely to incur a nonfatal head injury than helmeted riders (National Highway Traffic Safety Administration, 1980). In addition, the risk of head injury for unhelmeted bicyclists is more than 6 1/2 times greater than for helmeted riders (Thompson, Rivara, & Thompson, 1989).

Year 2000 Objectives:

Increase the use of helmets to at least 80% of motorcyclists and at least 50% of bicyclists.

Wyoming YRBS Results:

- Of the students (47.2%) who rode a motorcycle in the past 12 months, 26.5% "Never" wore a helmet.
- Of the students (88.0%) who rode a bicycle in the past 12 months, 94.8% "Never" wore a helmet.



Percentages of All Students Who Reported Never or Rarely Wearing a Helmet While Riding a Motorcycle or Bicycle

Motor Vehicle Safety

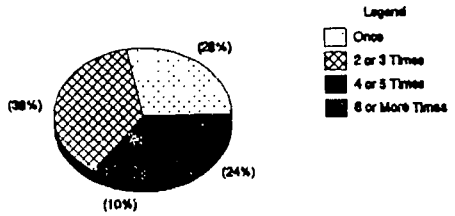
In 1989, car accidents accounted for 47.1% of the deaths of youth age 15-25 in Wyoming (Wyoming Department of Health, 1991a). Motor vehicle crash injuries, more than half of which involve alcohol (U. S. Department of Health and Human Services, 1990b), are the leading cause of death among youth age 15-24 in the U.S. (National Highway Traffic Safety Administration, 1988). Alcohol-related traffic crashes cause serious injury and disability and rank as the leading cause of spinal cord injury among adolescents and young adults (National Highway Traffic Safety Administration, 1987).

Year 2000 Objectives:

Reduce deaths among youth age 15-24 caused by motor vehicle crashes to no more than 33 per 100,000 people.

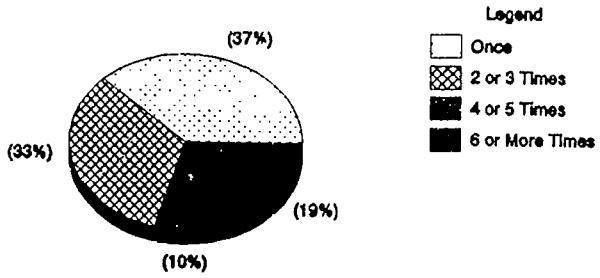
Reduce deaths among people age 15-24 caused by alcohol-related motor vehicle crashes to no more than 18 per 100,000.

Wyoming YRBS Results:



Percentages of Those Students (42.5%) Who Reported Riding in a Vehicle in the Past 30 Days Driven By Someone Who Had Been Drinking, By Number of Times

- 42.5% of all students reported at least once in the past 30 days they had been in a car driven by someone who had been drinking. One quarter of these students had done so 4 or more times in the past 30 days.



Percentages of Those Students (20.5%) Who Reported They Drove a Vehicle After Drinking in the Past 30 Days, By Number of Times

- 73.5% of 12th grade females and 60.3% of 12th grade males did not drive while drinking in the past 30 days.

Carrying of Weapons

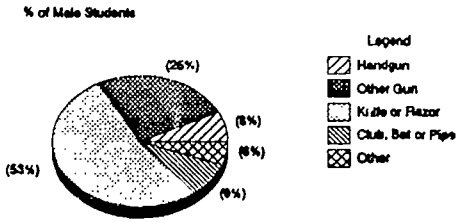
7.5% of all fatalities among 15-24 year olds in Wyoming were due to homicide during 1989. This was the third leading cause of death in this age range (Wyoming Department of Health, 1991a).

Approximately nine out of ten homicide victims in the United States are killed with a weapon of some type, such as a gun, knife, or club. Homicide is the second leading cause of death among all adolescents and young adults (National Center for Health Statistics, 1990a) and the leading killer of black adolescents and young adults (U.S. Department of Health and Human Services, 1990b).

Year 2000 Objectives:

Reduce by 20% the incidence of weapon-carrying by adolescents age 14-17.

Wyoming YRBS Results:



Percentages of All Male Students (49.8%) Who Carried Weapons in the Past Month, By Type of Weapon

- 41.3% of male students who described themselves as Hispanic reported carrying a weapon in the past month.
- Fewer than 11% of all females reported carrying a weapon in the past 30 days.
- 31.0% of all males and 5.3% of all females reported carrying a weapon more than five days during the past 30 days.
- Knifes were carried most often by 64.5% of the females and 52.8% of the males who carried weapons in the past month (30.7%).

Physical Fighting

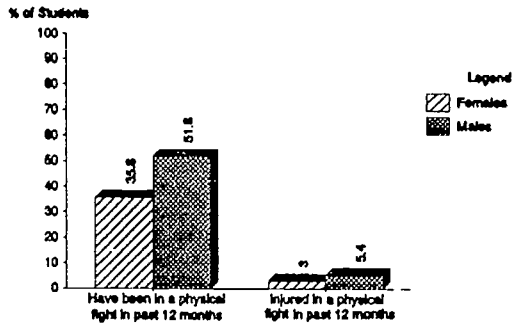
Fighting is the most important antecedent behavior for a great proportion of homicides among adolescents (U.S. Department of Health and Human Services, 1990a). The immediate accessibility of a firearm or other lethal weapon often is the factor that turns a violent altercation into a lethal event (Rivara, 1985). Unintentional firearm-related fatalities are a critical problem among children and young adults in the United States (Wood & Mercy, 1988).

Year 2000 Objectives:

Reduce by 20% the incidence of physical fighting among adolescents age 14-17.

Wyoming YRBS Results:

- 30.8% of all males reported fighting with a friend or someone they know, the last time they were in a physical fight.
- 19.3% of all females reported fighting with a parent, brother, sister, or family member the last time they were in a physical fight.
- Of those students who described themselves as Hispanic, 54.8% of the males and 46.2% of the females indicated they have been in a physical fight during the past 12 months.



Percentages of All Students Involved and/or Injured in a Physical Fight in the Past 12 Months

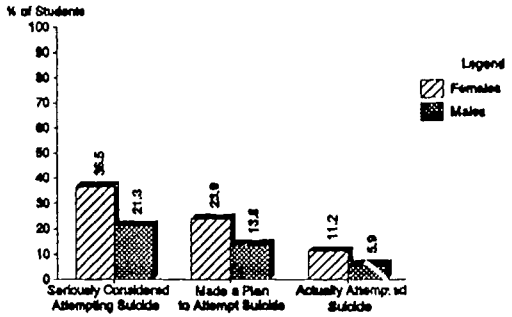
Suicide

During 1989, suicide accounted for 23.9% of all fatalities in youth age 15-24 in Wyoming. This was the second leading cause of death in this age range (Wyoming Department of Health, 1991a). Nationally, suicide is the third leading cause of death among youth age 15-24 and the second leading cause of death among white males age 15-24 (National Center for Health Statistics, 1990b). The suicide rate for persons age 15-24 has tripled since 1950 (U.S. Department of Health and Human Services, 1990b).

Year 2000 Objectives:

Reduce by 15% the incidence of injurious suicide attempts among adolescents age 14-19.

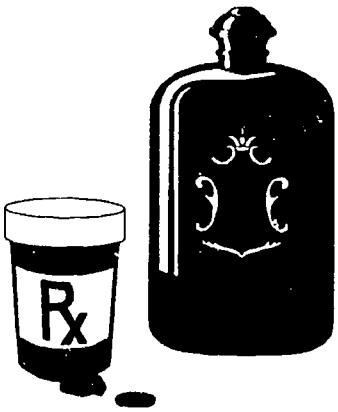
Wyoming YRBS Results:



Percentages by Gender of Students Who Reported Seriously Considering Suicide, Making a Plan for Suicide and/or Actually Attempting Suicide in the Past 12 Months.

- Of those who attempted suicide (8.4%) in the past 12 months, 18.5% reported the attempt resulted in injury, poisoning, or overdose that had to be treated by a physician or nurse.
- 10.8% of 9th grade females reportedly attempted suicide in the past year as compared to 7.5% of 12th grade females.

TOBACCO, ALCOHOL, AND OTHER DRUG USE



Alcohol is the most abused substance in Wyoming followed by tobacco and marijuana (Wyoming Department of Health, 1991a).

Tobacco, Alcohol, and Other Drug Use

Tobacco Use

In 1989, smoking related illnesses, including cardiovascular disease, chronic obstructive pulmonary diseases, and cancer of the mouth, lungs, and bladder, accounted for more than half of all deaths in Wyoming (Wyoming Department of Health, 1991a).

Tobacco use is the single most important preventable cause of death in the United States, accounting for one of every six deaths. Smoking is a major risk factor for heart disease; chronic bronchitis; emphysema; and cancers of the lung, larynx, pharynx, mouth, esophagus, pancreas, and bladder. If 29% of the 70 million children now living in the United States smoke cigarettes as adults, then at least 5 million of them will die of smoking-related diseases (Office on Smoking and Health, 1989). In addition, smoking is related to poor academic performance and the use of illicit drugs and alcohol (Johnston, O'Malley, & Bachman, 1987). Over one million teenagers begin smoking each year (U.S. Department of Health and Human Services, 1990b).

Oral cancer occurs more frequently among smokeless tobacco users than nonusers and may be 50 times as frequent among long-term snuff users. Smokeless tobacco use can lead to the development of oral leukoplakia and gingival recession and can cause addiction to nicotine (Public Health Service, 1986). Between 1970 and 1986, the prevalence of snuff use increased 15 times and chewing tobacco use increased four times among men age 17-19 (Office on Smoking and Health, 1989).

Year 2000 Objectives:

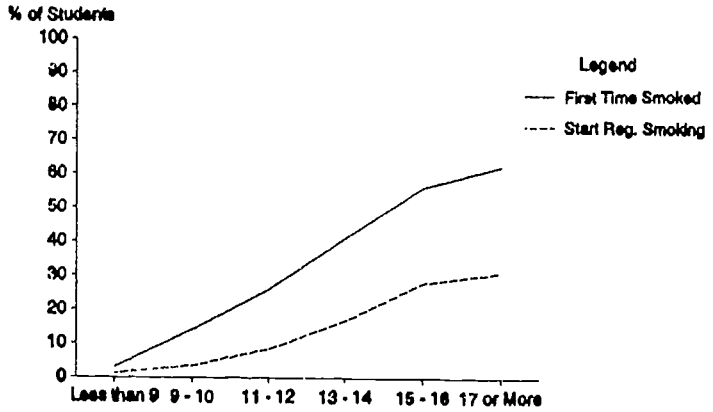
Increase by at least 1 year the average age of first use of cigarettes, alcohol, and marijuana by adolescents age 12-17.

Reduce the initiation of cigarette smoking by children and youth so that no more than 15% have become regular cigarette smokers by age 20.

Reduce smokeless tobacco use by males age 12-24 to a prevalence of no more than 4%.

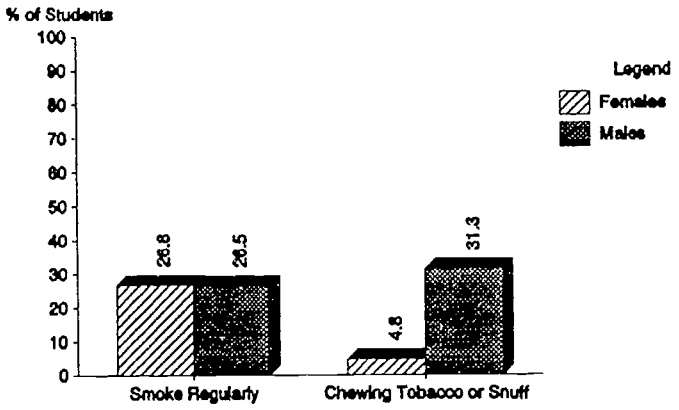
Wyoming YRBS Results:

- For all students, the median age of first use of cigarettes was 12 years old.
- 49.7% of all females and 47.4% of all males reported they have already tried cigarette smoking or they think they will try smoking in the next 12 months.



Age When 12th Grade Students Reported Smoking a Whole Cigarette for the First Time and/or Age When 12th Grade Students Reported They Regularly Started Smoking

- 26.7% of all students responded they have smoked regularly at some time.
- 12.9% of all students smoked cigarettes all 30 days during the past 30 days.
- Of those students (30.2%) who reported they smoke, 56.0% indicated they did try to quit smoking cigarettes during the past 6 months.



Percentages of Students Who Reported They Smoke Regularly or They Used Chewing Tobacco or Snuff in the Past 30 Days By Gender

- 31.3% of all males reported having used chewing tobacco or snuff during the past 30 days as compared to 4.8% of the females.

Alcohol Use

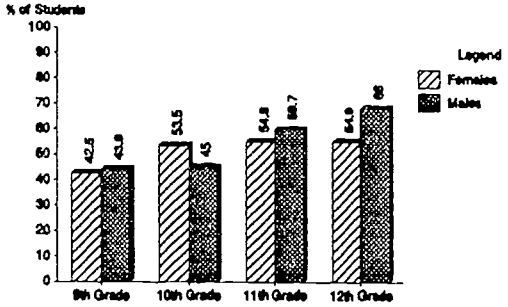
Alcohol is a major factor in approximately half of all homicides, suicides, and motor vehicle crashes (Perrine, Peck, & Fell, 1988), which are the leading causes of death and disability among young people (U.S. Department of Health and Human Services, 1990b). Heavy drinking among youth has been linked conclusively to physical fights, destroyed property, academic and job problems, and trouble with law enforcement authorities (Dryfoos, 1987). Approximately 100,000 American deaths per year are attributable to misuse of alcohol (U.S. Department of Health and Human Services, 1990b).

Year 2000 Objectives:

Reduce the proportion of young people who have used alcohol in the past month to 12.6% of youth age 12-17 and 29.0% among youth age 18-20.

Reduce the proportion of high school seniors and college students engaging in recent occasions of heavy drinking of alcoholic beverages to no more than 28% of high school seniors and 32% of college students.

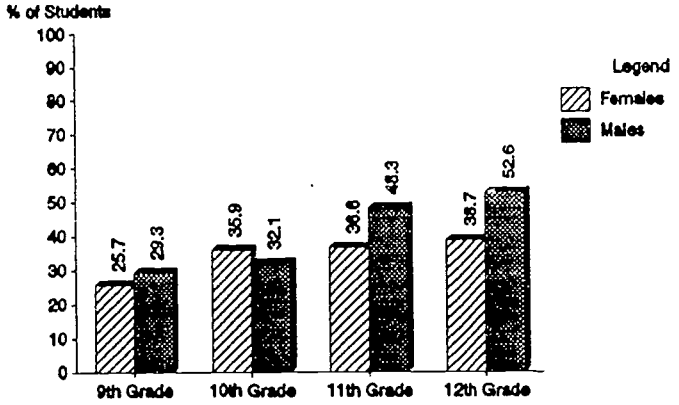
Wyoming YRBS Results:



Percentages of All Students Who Drank Alcohol On At Least 1 Day During the Past 30 Days

- One out of five students estimated they had at least one drink of alcohol on at least 100 days in their life.
- 39.2% of all 12th grade males and 22.5% of all 12th grade females estimated they had at least one drink of alcohol on at least 100 days in their life.
- 41.2% of 12th grade students reported having had a drink on at least 3 days in the past 30 days.

- 19.7% of all students reported they had 5 or more drinks in a row on 3 or more days during the past month.
- 25.7% of all male students who described themselves as Hispanic indicated they had 5 or more drinks in a row on 3 or more days during the past 30 days.



Percentages of All Students Who Reported They Drank 5 or More Drinks on 1 or More of the Past 30 Days

Other Drug Use

One in four American adolescents is estimated to be at very high risk for the consequences of alcohol and other drug problems (Dryfoos, 1987). Drug abuse is related to morbidity and mortality due to injury, early unwanted pregnancy, school failure, delinquency, and transmission of sexually transmitted diseases, including HIV infection (U.S. Department of Health and Human Services, 1990a). Despite improvements in recent years, illicit drug use is greater among high school students and other young adults in America than in any other industrialized nation in the world (Johnston, O'Malley, & Bachman, 1989).

Year 2000 Objectives:

Increase by at least 1 year the average age of first use of cigarettes, alcohol, and marijuana by adolescents age 12-17.

Reduce the proportion of young people who have used marijuana in the past month as follows: 3.2% of youth age 12-17 and 7.8% of youth age 18-20 (marijuana use); 0.6% of youth age 12-17 and 2.3% of youth age 18-20 (cocaine use).

Reduce to no more than 3% the proportion of male high school seniors who use anabolic steroids.

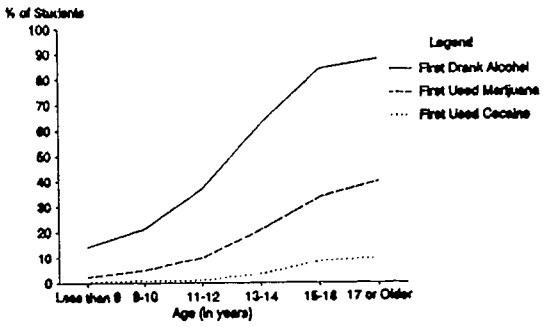
Wyoming YRBS Results:

- Of those students who described themselves as Hispanic, 43.9% reported they have tried marijuana.
- 13.4% of all students reported smoking marijuana at least once during the past 30 days.
- 4.8% of all students reported having smoked marijuana regularly.
- 12.8% of those students who described themselves as Hispanic indicated they have used cocaine at least once and 7.5% reported they have tried the crack or freebase forms of cocaine.

- 7.9% of all students reported having used cocaine at least once during their lifetime and 5.5% of all students reported having used the crack or freebase forms of cocaine in their lifetime.

- 2.9% of all students reported using cocaine at least once during the past month.

- One out of five students indicated they have used other drugs, such as pills without a doctor's prescriptions, LSD, PCP, ecstasy, mushrooms, speed, ice, or heroin.



Reported Age When 12th Grade Students Began Drinking Alcohol, Using Marijuana and Using Cocaine

- 30.1% of the students who described themselves as Hispanic reported they have used other drugs, such as pills without a doctor's prescription, LSD, PCP, ecstasy, mushrooms, speed, ice, or heroin.

- 2.7% of 12th grade males and 7.2% of 9th grade males reported having taken steroid pills or shots without a doctor's prescription.

- When asked if they had ever injected or shot up illegal drugs, 9.1% of all the students responded they had. 11.0% of all 12th grade students indicated they had injected or shot up illegal drugs.

- Of those students who described themselves as Hispanic, 14.7% reported they had injected or shot up illegal drugs.

Sexual Behaviors That Result in HIV Infection, Other Sexually Transmitted Diseases, and Unintended Pregnancy

"As of May 31, 1991, 691 cases of AIDS among teenagers (age 13-19) in the U.S. were reported to the Centers for Disease Control. More than 20 percent (35,635) of persons reported with AIDS are in their 20's. Given the average ten year period between infection and onset of symptoms, the majority of these people were probably infected with HIV during their teenage years" (Centers for Disease Control, 1991).

Sexual Behaviors That Result in HIV Infection, Other Sexually Transmitted Diseases, and Unintended Pregnancy

HIV/AIDS Risk and Prevention Education

By June 30, 1991, 44 cases of AIDS and 26 deaths attributed to AIDS were reported in Wyoming. Another 55 people are reported to be infected with HIV (Wyoming Department of Health, 1991b).

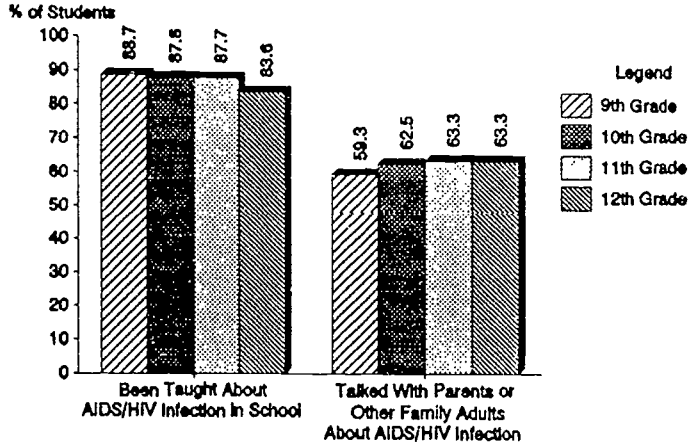
Acquired immunodeficiency syndrome (AIDS) is the only major disease in the U.S. for which mortality is increasing (U.S. Department of Health and Human Services, 1990b). AIDS is the 7th leading cause of years of life lost before age 65 (Centers for Disease Control, 1989a) and is the 7th leading cause of death for youth age 15-24 (National Center for Health Statistics, 1989).

In a 1986 national survey, teens said they would like to communicate more about sex and HIV infection with their parents. Half the teens in a 1988 survey said their parents have not provided enough or any information about sex and AIDS and they want to talk more about it with them (Miller & Laing, 1989). Additionally, 60% of Wyoming students reported in 1990 that they have not had sufficient class time to learn about HIV infection and AIDS(Gray & Walton, 1990).

Year 2000 Objectives:

Confine the prevalence of HIV infection to no more than 800 per 100,000.

Wyoming YRBS Results:



Percentage of Students By Grade Who Reported Having Been Taught in School and/or Having Talked With Parents or Other Family Adults About HIV Infection and AIDS

Sexual Behaviors

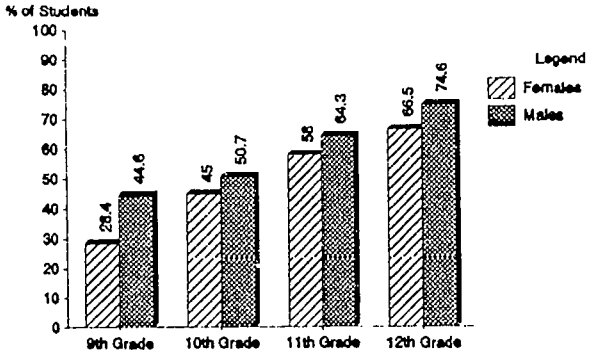
Major risks of early sexual activity include unwanted pregnancy and sexually transmitted diseases (STDs) including HIV. Number of partners and age at first intercourse are associated with STDs. Alcohol and drug use may be predisposing factors for initiation of sexual activity and unprotected intercourse (Hofferth & Hayes, 1987). Nationally, the average age of first sexual intercourse is 16.2 for girls and 15.7 for boys (Hayes, 1987). About one fourth of girls and one third of boys have had intercourse by age 15 (Baldwin, 1990; Sonenstein, Pleck, & Ku, 1989). Among all teens, 77% of females and 86% of males are sexually active by age 20 (National Center for Health Statistics, 1988).

Year 2000 Objectives:

Reduce the proportion of adolescents who have engaged in sexual intercourse to no more than 15% by age 15 and no more than 40% by age 17.

Increase to at least 40% the proportion of sexually active adolescents age 17 and younger who have abstained from sexual activity for the previous three months.

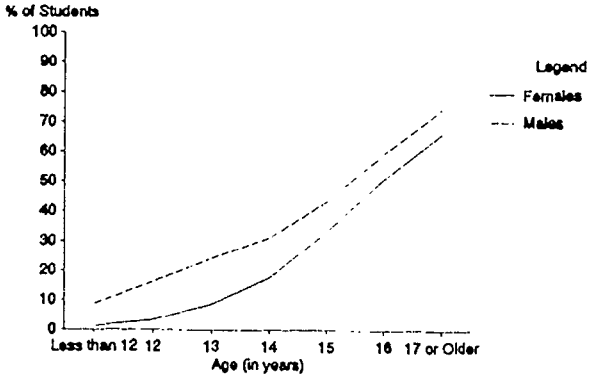
Wyoming YRBS Results:



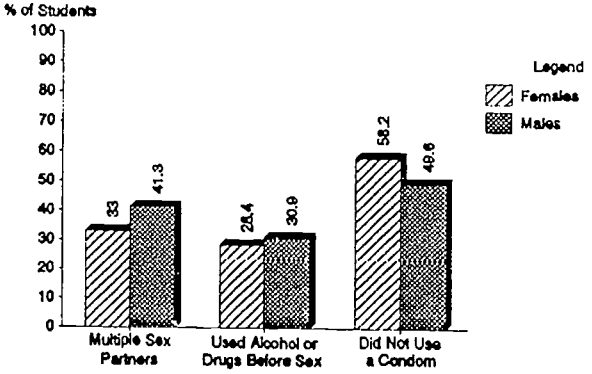
Percentages by Grade and Gender of Students Who Reported Ever Having Had Sexual Intercourse

- 36.4% of all 9th grade students and 70.7% of all 12th grade students reported having had sexual intercourse.
- One third of ever sexually active students reported they abstained from sexual intercourse for the previous 3 months.

- Of 12th grade students, 66.5% of females and 74.6% of males reported having had sexual intercourse.
- One out of four 12th grade students reported having sexual intercourse by age 14.
- 55.5% of all 12th grade students reported having had sexual intercourse by age 16.



Age by Gender of First Sexual Intercourse Reported by 12th Grade Students



Percentages of Sexually Active Students (52.9%) Who Reported Having Engaged in High-Risk Sexual Behaviors

- Of students (52.9%) reporting having had sexual intercourse, 66.8% reported they had intercourse with more than one partner in the past 3 months.
- Of those students (52.9%) who have ever had sexual intercourse, 46.6% indicated they used alcohol or drugs before the last time they had intercourse.

Sexually Transmitted Diseases

Every year, 2.5 million U.S. teenagers are infected with an STD; this number represents approximately one out of every six sexually active teens and one-fifth of the national STD cases (Centers for Disease Control, 1989b). Of the 12 million new cases of STD per year, 86% are among people age 15-29 (Division of Sexually Transmitted Diseases, 1990). STD may result in infertility, adverse effects on pregnancy outcome and maternal and child health, and facilitation of HIV transmission (U.S. Department of Health and Human Services, 1990b).

Year 2000 Objectives:

Increase to at least 60% the proportion of sexually active, unmarried young women age 15-19 who used a condom at last sexual intercourse.

Increase to at least 75% the proportion of sexually active, unmarried young men age 15-19 who used a condom at last sexual intercourse.

Reduce gonorrhea among adolescents age 15-19 to no more than 750 cases per 100,000 people.

Wyoming YRBS Results:

- Of those female students (52.2%) who are sexually active, 47.3% indicated a condom was used the last time they had sexual intercourse.
- Of those male students (42.4%) who are sexually active, 57.1% of them reported they used a condom the last time they had sexual intercourse.
- When asked if they had ever been told by a doctor or nurse they had a sexually transmitted disease, 5.9% of all students responded they had.

Unintended Pregnancies

One of ten teenage girls in the U.S. becomes pregnant each year, over 400,000 teens have abortions, and nearly 470,000 give birth (Henshaw & Van Vort, 1989; Hofferth & Hayes, 1987). In Wyoming during 1989, 3.8% of all births were to mothers under age 18 (Wyoming Department of Health, 1991a). Nationally, teens account for one third of all unintended pregnancies, with 75% of teenage pregnancies occurring among teens who do not practice contraception (Westoff, 1988). The U.S. leads all other developed countries in adolescent pregnancy, abortion, and childbearing (Hofferth & Hayes, 1987).

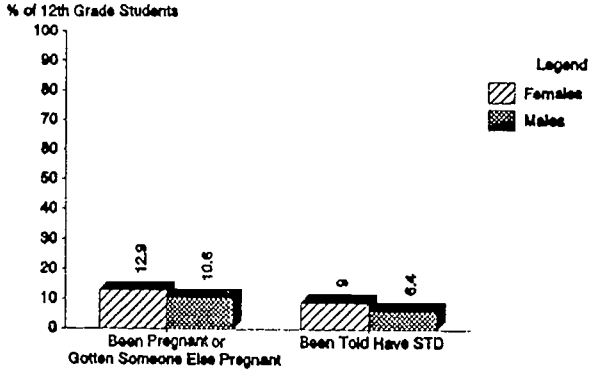
Year 2000 Objectives:

Reduce pregnancies among girls age 17 and younger to no more than 5%.

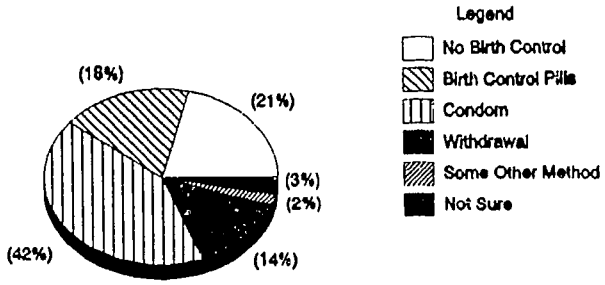
Increase to at least 90% the proportion of sexually active, unmarried people age 19 and younger who use contraception, especially combined method contraception that effectively prevents pregnancy and provides barrier protection.

Wyoming YRBS Results:

- 11.4% of 12th grade females and males report having been pregnant or gotten someone pregnant.



Percentage of 12th Grade Students Who Reported They Have Been or Gotten Someone Else Pregnant or Been Told They Have an STD

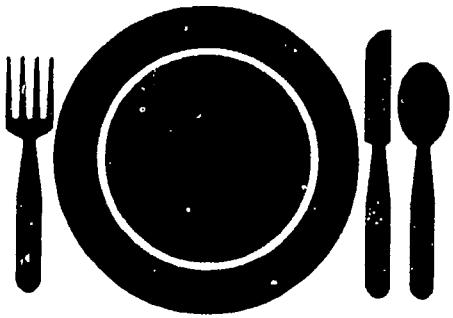


Reported Kinds of Birth Control Used by Sexually Active Students the Last Time They Had Intercourse

- Of those students (52.9%) who have had sexual intercourse, 22.1% of the females and 20.1% of the males reported no birth control method was used the last time they had sexual intercourse.

Dietary Excesses and Imbalances

42.6% of all female students and 20.6% of all male students in Wyoming believe they are overweight.



Dietary Excesses and Imbalances

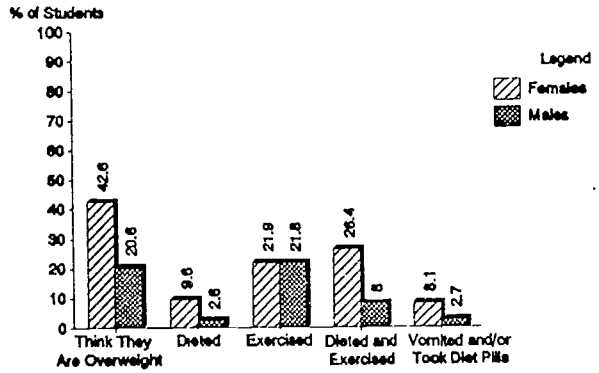
Obesity and extreme obesity appear to be increasing by as much as 39% and 64%, respectively, among adolescents (Gortmaker, Dietz, Sobol & Wehler, 1987). Obesity acquired during adolescence may persist into adulthood, increasing later risk for chronic conditions such as diabetes, heart disease, high blood pressure, stroke, cancer, and gall bladder disease (Public Health Service, 1988). In addition, adolescents often experience social and psychological stress related to obesity (Rotatori & Fox, 1989). Overemphasis on thinness can contribute to eating disorders (Public Health Service, 1988).

Year 2000 Objectives:

Reduce overweight to a prevalence of no more than 20% among people age 20 and older and no more than 15% among adolescents age 12-19.

Increase to at least 50% the proportion of overweight people age 12 and older who have adopted sound dietary practices combined with regular physical activity.

Wyoming YRBS Results:



Percentages of Students Who Reported They Think They Are Overweight and The Methods of Weight Control They Used During the Past Week

- 12.1% of females and 23.9% of males think they are underweight.
- 42.6% of all females and 20.6% of all males believe they are overweight.
- 62.5% of females and 21.8% of males are trying to lose weight.
- 26.4% of females and 8.0% of males exercised and dieted in the past week to reduce.
- During the past week, 8.1% of females vomited and/or took diet pills to lose weight.

Americans currently consume more than 36% of their total calories from fat. High fat diets, which are associated with increased risk of obesity, heart disease, some types of cancer, and other chronic conditions, often are consumed at the expense of food high in complex carbohydrates and dietary fiber, considered more conducive to health (Public Health Service, 1988). Because lifetime dietary patterns are established during youth, adolescents should be encouraged to choose nutritious foods and to develop healthy eating habits (Select Panel for the Promotion of Child Health, 1981).

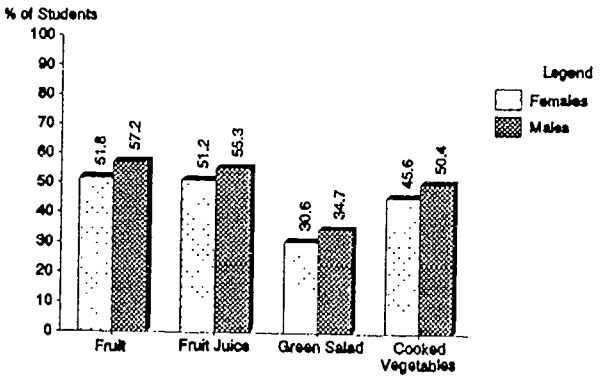
Year 2000 Objectives:

Reduce dietary fat intake to an average of 30% of calories or less and average saturated fat intake to less than 10% of calories among people age 2 and older.

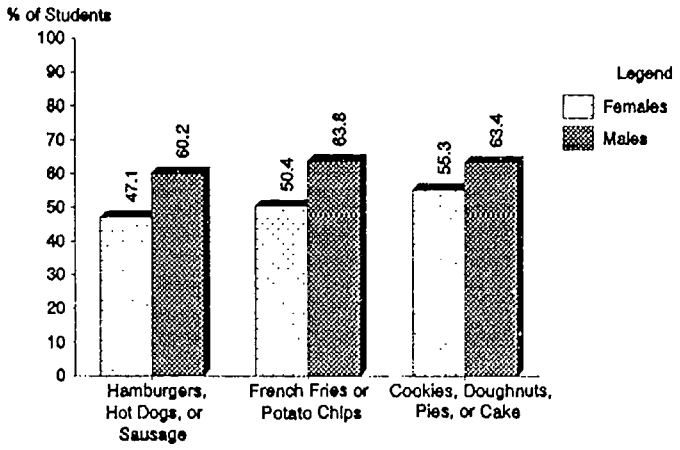
Increase complex carbohydrate and fiber-containing foods in the diets of adults to five or more daily services for vegetables (including legumes) and fruits, and to six or more daily servings for grain products.

Wyoming YRBS Results:

- 48.2% of all students reported they ate cooked vegetables the day prior to the survey and 32.8% reported they ate green salad the day prior to the survey.
- 54.6% of all students reported they ate fruit the day before the survey.



What Students Ate The Previous Day

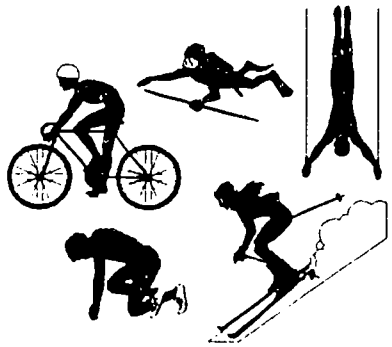


What Students Ate The Previous Day

- 54.0% of all the students reported they ate hamburger, hot dogs, or sausage the day before the survey.
- Of all those participating in the survey, 57.4% of the students indicated they ate french fries or potato chips the day before the survey.
- 59.7% of all the students responded they ate cookies, doughnuts, pies or cake the day prior to the survey.

Physical Inactivity

29.1% of all Wyoming students reported that they did not participate in activities that made them sweat or breathe hard 3 or more times during the past 7 days.



Physical Inactivity

Regular physical activity increases life expectancy (Paffenbarger, Hyde, Wing, & Hsieh, 1986). Additionally, regular physical activity can assist in the prevention and management of coronary heart disease, hypertension, diabetes, osteoporosis, obesity, and mental health problems (Harris, Caspersen, DeFriese, & Estes, 1989). The quantity and quality of school physical education programs have a significant positive effect on the health-related fitness of children (U.S. Department of Health and Human Services, 1985, 1987).

Year 2000 Objectives:

Increase to at least 30% the proportion of people age 6 and older who engage regularly, preferably daily, in light to moderate physical activity for at least 30 minutes per day.

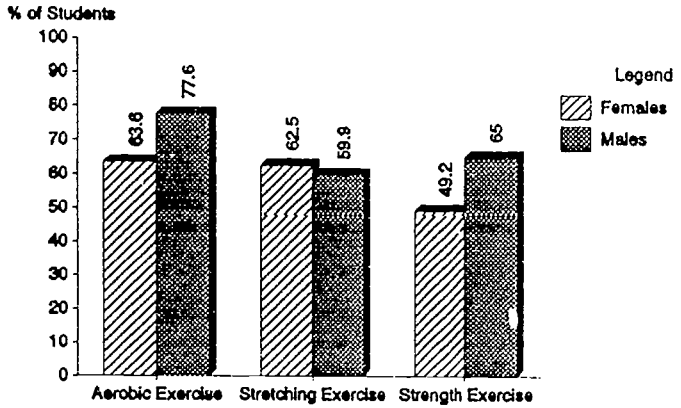
Increase to at least 20% the proportion of people age 18 and older and to at least 75% the proportion of children and adolescents age 6-17 who engage in vigorous physical activity that promotes the development and maintenance of cardiorespiratory fitness 3 or more days per week for 20 or more minutes per occasion.

Reduce to no more than 15% the proportion of people age 6 and older who engage in no leisure-time physical activity.

Increase to at least 40% the proportion of people age 6 and older who regularly perform physical activities that enhance and maintain muscular strength, muscular endurance, and muscular flexibility.

Wyoming YRBS Results:

- 29.1% of all students reported having participated in activities that made them sweat or breathe hard fewer than 3 times during the past 7 days.
- 55.3% of the students reported attending a physical education (PE) class on 3 or more days of an average school week.



Percentages of Students Who Participated 3 or More Days in Exercise During the Past 7 Days

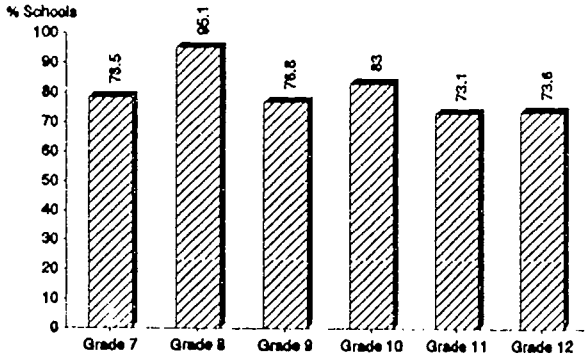
- Of those enrolled in a P.E. class, students reported on average they participate in 21 to 30 minutes of exercise per class.

- 48.5% of students indicated that during the past 12 months they participated on at least one team run by the school and 39.6% of students indicated that during the same time period, they participated on at least one team run by some organization other than the school.

SCHOOL HEALTH EDUCATION SURVEY RESULTS

SCHOOL HEALTH EDUCATION SURVEY RESULTS

The 1991 Wyoming School Health Education Survey asked administrators about the nature and extent of health education currently being provided in their school. Such information as whether formal HIV prevention education was provided at the various grade levels, whether instruction was separate or in the context of a comprehensive school health curriculum, and the numbers of students participating in the instruction was collected. Additional information about the number of hours devoted to health education, the organization of program development and instruction, and barriers to implementation was collected. Survey results indicated:



Percentages of Schools Providing HIV Prevention Education

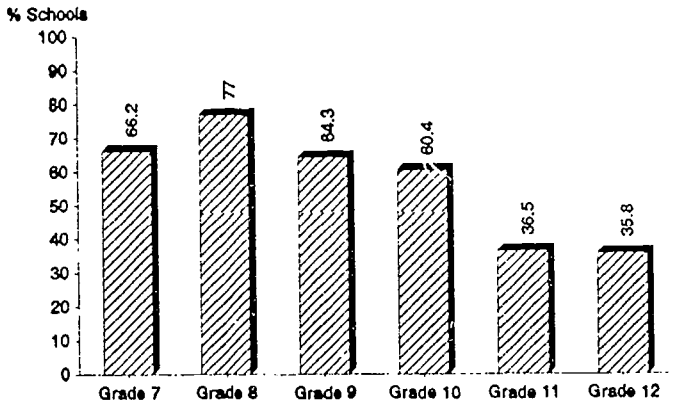
- Approximately 83% of schools with seventh, eighth, ninth, or tenth grade classes reported any kind of HIV prevention education was provided during the school year; an increase of nearly 5% over that reported the previous year (Gray & Walton, 1990).
- 73.3% of schools with classes in grades 11 and 12 provided any kind of HIV prevention education during the school year; an increase of about 13% from the previous year (Gray & Walton, 1990).

Current health education research indicates that, at a minimum, effective HIV prevention education is characterized by continuing instruction throughout elementary, middle, and high school grades. Repeated exposure to health-related concepts and skills-building practice will provide students with the kind of education that will enable them to

successfully adopt behaviors to avoid the most significant mortality, morbidity, disability, and social problems during both youth and adulthood.

It would appear many schools in Wyoming are providing some kind of comprehensive health education and HIV prevention for students in grades 7 through 10. However, greater emphasis on providing such education for students in grades 11 and 12 is needed.

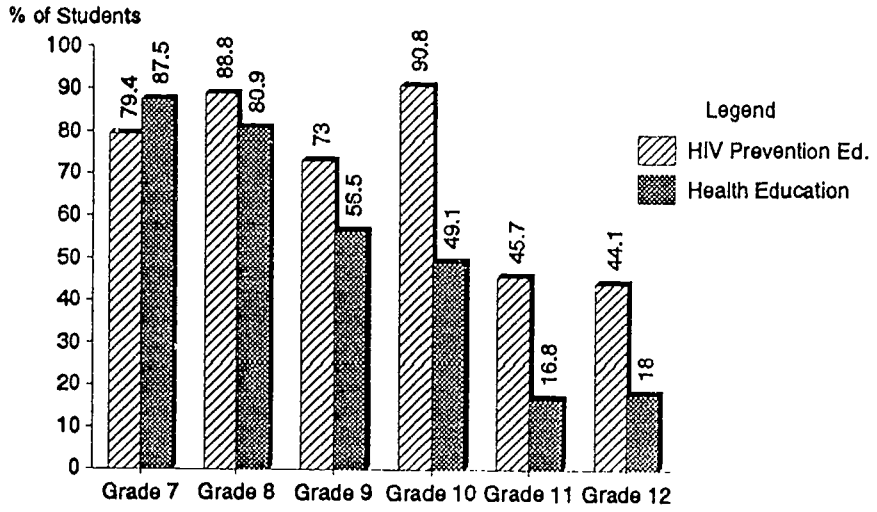
Effective education for any category of health risk behavior is best accomplished within a comprehensive program that emphasizes behavior change and the development of risk-reduction skills. As part of a comprehensive school health education program, five or more hours devoted to a single component (e.g., HIV prevention) during the school year are indicated.



Percentages of Schools Providing HIV Prevention Education Incorporated Within School Health Education

Survey results indicate a dramatic increase (of approximately 25%) in the percentage of schools providing at least some kind of HIV prevention education in the context of comprehensive health education in grades 7 through 10. However, the percentage of

schools providing this type of health education for 11th and 12th grade students remains exceedingly low. Similar results hold for estimated numbers of students receiving HIV and comprehensive health education.



Comparisons of the Percentage of Students Receiving HIV Prevention Education and Health Education

According to current health education research, it may take as many as 40 to 50 hours of instruction during the school year to provide students with the kind of education that would enable them to adopt healthy behaviors and avoid preventable diseases.

Table 1
Average Number of Class Periods
of HIV Prevention and Health Education
Provided During the School Year by Grade

	HIV Prevention Education	Health Education
Grade 7	3.50	27.95
Grade 8	5.22	30.87
Grade 9	4.00	25.55
Grade 10	3.98	27.82
Grade 11	2.94	15.90
Grade 12	2.50	12.14

In grades 7 through 10, some students appear to be receiving an adequate number of class periods of health education instruction, but only about 35% of students in these grades reportedly receive this instruction. Again, few students (approximately 15%) in grades 11 and 12 received this type of instruction.

An important component of any successful program of health education is effective teacher training. Such training provides teachers with the confidence and skills to promote the adoption of healthy behaviors in their students. According to survey results, 79.3% of teachers who provide HIV prevention education received inservice training through the Wyoming HIV/AIDS Education School Health Project. Of those who taught about HIV during the school year, 7.6% received no special preparation to do so.

Table 2
How Staff Members That Provide HIV Prevention Education
Are Prepared to Teach About HIV

No Special Preparation Provided	7.6%
Written Information/Guidelines Provided	48.9%
Lesson Plans/Classroom Activities Provided	46.7%
Inservice Training Provided by the Wyoming HIV/AIDS Education School Health Project	79.3%
Inservice Training Provided Within District That Is Not Provided by the Wyoming HIV/AIDS Education School Health Project	37.0%
Other	30.4%

Effective HIV prevention education programs incorporate a functional knowledge component and a skills-building component into instruction. While more than 45% of schools reported providing most of the important functional knowledge content areas in 7th through 10th grades, fewer than 37% of schools provided this extent of knowledge-based instruction in grades 11 and 12.

It appears that skills in communication and decision making are the focal point of alcohol and drug prevention instruction in about 60% of schools teaching in grades 7 and 8. Those skills for avoiding risk behaviors that are directly related to HIV and other STD infection, and unwanted pregnancies are taught in less than half of grades 7 and 8, and as low as 20% in grades 11 and 12. Overall this type of instruction does not appear to consistently be included in current school-based health education programs in Wyoming.

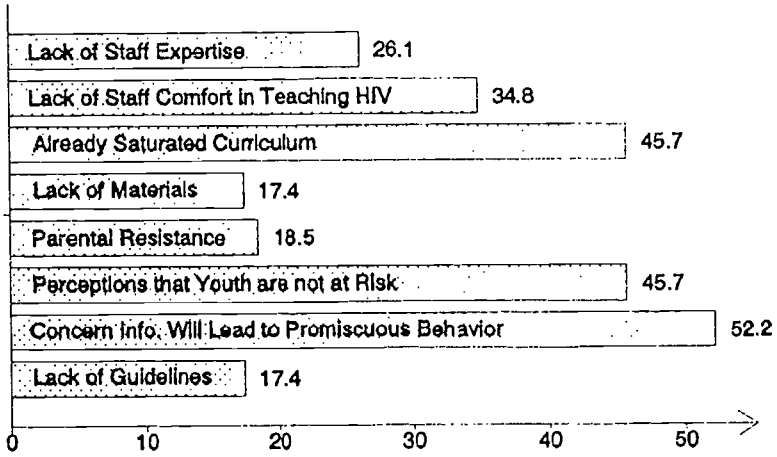
Table 3
Percentage of Schools Teaching Functional Knowledge Topics by Grade

	7	8	9	10	11	12
Definition of HIV and AIDS	57.6	65.2	48.9	46.7	37.0	35.9
How HIV is Transmitted	51.1	59.8	47.8	46.7	34.8	33.7
How HIV is not Transmitted	52.2	60.9	47.8	46.7	34.8	32.6
Reduction of risk behaviors for contraction AIDS	47.8	56.5	47.8	45.7	34.8	33.7
Compassion for persons infected with HIV	41.3	48.9	42.4	41.3	32.6	32.6
Information about other Sexually Transmitted Diseases	35.9	47.8	43.5	46.7	33.7	31.5

Table 4
Percentage of Schools Teaching Skills by Grade

	7	8	9	10	11	12
Skills in communication	60.9	63.0	41.3	40.2	29.3	28.3
Skills in decision making	57.6	59.8	39.1	39.1	30.4	29.3
Skills to avoid alcohol and drug use	53.3	56.5	39.1	39.1	26.1	25.0
Skills to avoid sexual intercourse	40.2	50.0	37.0	39.1	28.3	26.1
Skills to avoid sexually transmitted diseases	21.7	41.3	37.0	34.8	27.2	26.1
Skills to avoid IV drug use	46.7	50.0	38.0	35.9	22.8	20.7
Skills to obtain community HIV-related health services	35.9	44.6	37.0	35.9	26.1	23.9

Barriers to implementing effective comprehensive health education and HIV prevention in Wyoming schools fall into three categories. The most important barriers appear to be a concern that instruction would encourage, rather than reduce, health risk behaviors; a perceived lack of adolescent risk; and a lack of time due to an already saturated curriculum. Also important are a lack of staff expertise; a lack of comfort with teaching about sensitive topics; and parental resistance. Finally, schools perceive a lack of appropriate curriculum materials and a lack of district guidelines to be barriers to implementing effective health education programs.



Percentages of Barriers to Implementing HIV Prevention Education as Reported By Schools

SUMMARY AND CONCLUSIONS

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Results from the school and student surveys indicate youth in Wyoming continue to engage in behaviors that put them at risk for the significant mortality, morbidity, disability, and social problems extending from youth to adulthood. Effective school-based health education programs are needed to reduce these behaviors and to provide students with the opportunity to replace them with healthy behaviors. Wyoming schools have expanded health education efforts in grades 7 and 8 but are still in the developmental stages of providing effective comprehensive health education and HIV prevention programs for all students.

To reduce overall student risk, a health education program must be as comprehensive as possible and incorporate a coordinated, collaborative effort among schools, parents, and the community. According to current health education research, it may take as many as 40 to 50 hours of instruction during the school year to provide students with the kind of education that would enable them to adopt healthy behaviors and to avoid preventable diseases. In addition, repeated exposure throughout a student's school years will provide the kinds of experiences that are more likely to produce lasting results.

Characteristics of successful programs include skills-based curricula, adequate instructional time, teacher training and follow up, peer teacher assistants, parental support, and school-wide and community media programs. Such programs have emphasized the development of skills and self-esteem, nurture social bonding to conventional units of socialization, and provide recognition and reinforcement for newly acquired skills and behaviors.

To provide students with the kinds of educational programs that will enable them to adopt healthy behaviors and avoid preventable diseases, the active support of school administrators, school board members, teachers, and parents will be needed. This report may provide a focal point to generate the necessary support.

For more information about effective health education programs and assistance in developing such programs in your district please contact the Wyoming HIV/AIDS Education School Health Project or the Wyoming Department of Education.

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